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OM protein - protein search, using sw model

Run on: April 27, 2006, 23:16:14 ; Search time 63.0045 Seconds
(without alignments)
5066.651 Million cell updates/sec

Title: US-10-658-688-4
Perfect score: 3907
Sequence: 1 MKKRVLLPMLALSTILVSS.....TSTNGIKILIFSKKGYEIG 764

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1867569 seqs, 417829326 residues

Total number of hits satisfying chosen parameters: 1867569

Minimum DB seq length: 0
Maximum DB seq length: 200000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published Applications_AA_Main:*
1: /cgn2_6/prodata/1/pubpaa/US07_PUBCOMB.pgp:*
2: /cgn2_6/prodata/1/pubpaa/US08_PUBCOMB.pgp:*
3: /cgn2_6/prodata/1/pubpaa/US09_PUBCOMB.pgp:*
4: /cgn2_6/prodata/1/pubpaa/US10A_PUBCOMB.pgp:*
5: /cgn2_6/prodata/1/pubpaa/US10B_PUBCOMB.pgp:*
6: /cgn2_6/prodata/1/pubpaa/US11_PUBCOMB.pgp:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	3907	100.0	764	US-10-442-502-6	Sequence 6, Appli
2	3907	100.0	764	US-10-751-103-4	Sequence 4, Appli
3	3904	99.9	764	US-10-478-516-30	Sequence 30, Appl
4	3900	99.8	764	US-10-245-871-681	Sequence 681, App
5	3900	99.8	764	US-10-253-286-681	Sequence 681, App
6	3806.5	97.4	763	US-10-442-502-5	Sequence 5, Appli
7	3800	97.3	764	US-09-747-521-4	Sequence 4, Appli
8	3800	97.3	764	US-10-106-014-4	Sequence 4, Appli
9	3800	97.3	764	US-10-105-695-4	Sequence 4, Appli
10	3800	97.3	764	US-10-105-695-4	Sequence 4, Appli
11	3774	96.6	735	US-10-410-647-30	Sequence 30, Appl
12	3774	96.6	736	US-09-848-909-1	Sequence 1, Appli
13	3774	96.6	736	US-09-848-909-2	Sequence 2, Appli
14	3774	96.6	736	US-09-848-909-3	Sequence 3, Appli
15	3774	96.6	736	US-09-848-909-4	Sequence 4, Appli
16	3774	96.6	736	US-09-848-909-5	Sequence 5, Appli
17	3774	96.6	736	US-09-848-909-6	Sequence 6, Appli
18	3774	96.6	736	US-09-848-909-7	Sequence 7, Appli
19	3774	96.6	736	US-09-848-909-8	Sequence 8, Appli
20	3774	96.6	736	US-09-848-909-9	Sequence 9, Appli
21	3774	96.6	736	US-09-848-909-10	Sequence 10, Appl
22	3774	96.6	736	US-09-848-909-11	Sequence 11, Appl
23	3774	96.6	736	US-09-848-909-12	Sequence 12, Appl
24	3774	96.6	736	US-09-848-909-13	Sequence 13, Appl
25	3774	96.6	736	US-09-848-909-14	Sequence 14, Appl
26	3774	96.6	736	US-09-848-909-15	Sequence 15, Appl
27	3774	96.6	736	US-09-848-909-16	Sequence 16, Appl

ALIGNMENTS

RESULT 1
US-10-442-502-6
; Sequence 6, Application US/10442502
; Publication No. US2004000945A1
; GENERAL INFORMATION:
; APPLICANT: LEE, JOHN SCOTT
; APPLICANT: PUSHKO, PETER
; APPLICANT: PARKER, MICHAEL D.
; APPLICANT: SMITH, JONATHAN F.
; APPLICANT: WELKOS, SUSAN L.
; TITLE OF INVENTION: ANTHRAX VACCINES
; FILE REFERENCE: ARMY135B
; CURRENT APPLICATION NUMBER: US/10/442,502
; CURRENT FILING DATE: 2003-05-21
; PRIOR APPLICATION NUMBER: 09/350,729
; PRIOR FILING DATE: 1999-07-09
; PRIOR APPLICATION NUMBER: 60/092,416
; PRIOR FILING DATE: 1998-07-10
; NUMBER OF SEQ ID NOS: 18
; SOFTWARE: Patent in Ver. 2.1
; SEQ ID NO 6
; LENGTH: 764
; TYPE: PRT
; ORGANISM: Bacillus anthracis
US-10-442-502-6

Query Match 100.0%; Score 3907; DB 4; Length 764;
Best Local Similarity 100.0%; Pred. No. 3.8e-228;
Matches 764; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	1	MKKRVLLPMLALSTILVSTGNLEVIQAEVKQENLLNSESQGLLGYFSDLNFOA	60
Db	1	MKKRVLLPMLALSTILVSTGNLEVIQAEVKQENLLNSESQGLLGYFSDLNFOA	60
Qy	61	PMVVTSTTGDLSIPSELENISENQYFOSAIWSGFIKVKSDGYTFATSADNHVTMW	120
Db	61	PMVVTSTTGDLSIPSELENISENQYFOSAIWSGFIKVKSDGYTFATSADNHVTMW	120
Qy	121	DDDEVINKASNNKIRLEKGRLYQIKIQVORENPTEKGLDFKLYWTDSONKKEVISSDNL	180
Db	121	DDDEVINKASNNKIRLEKGRLYQIKIQVORENPTEKGLDFKLYWTDSONKKEVISSDNL	180
Qy	181	QLPELKQKSSNRKSTAGPTVPDRDNDGIIPDSLEVEGYTVDVKNKRTFLSPWISNIH	240
Db	181	QLPELKQKSSNRKSTAGPTVPDRDNDGIIPDSLEVEGYTVDVKNKRTFLSPWISNIH	240
Qy	241	EKKGLTKYKSSPEKWTASDPYDFEKVTCGRIDKNYSPEARHPLVAAYPIVHVDMENIIL	300
Db	241	EKKGLTKYKSSPEKWTASDPYDFEKVTCGRIDKNYSPEARHPLVAAYPIVHVDMENIIL	300

Sequence 17, Appl
Sequence 18, Appl
Sequence 19, Appl
Sequence 20, Appl
Sequence 21, Appl
Sequence 23, Appl
Sequence 7, Appl
Sequence 13, Appl
Sequence 9, Appl
Sequence 13, Appl
Sequence 2, Appl
Sequence 123, App
Sequence 123, App
Sequence 30, Appl
Sequence 4, Appl
Sequence 1, Appl
Sequence 24, Appl

QY 301 SKNEQSTQNTDSETRISKNVTSRTHSEVHGNAEVHASFDFDGGSVAGFSNSNST 360
DB 301 SKNEQSTQNTDSETRISKNVTSRTHSEVHGNAEVHASFDFDGGSVAGFSNSNST 360
QY 361 VAIDHSLSLAGERTWAETMGLNTADTARLANANIRYVNTGTAPIYVNLPTTSLVLGKQNTL 420
DB 361 VAIDHSLSLAGERTWAETMGLNTADTARLANANIRYVNTGTAPIYVNLPTTSLVLGKQNTL 420
QY 421 ATIKAKENQLSQILAPNNYYPSSKNLAPIALNAQDDFSSTPTMNYNQFLELEKTKQLRLD 480
DB 421 ATIKAKENQLSQILAPNNYYPSSKNLAPIALNAQDDFSSTPTMNYNQFLELEKTKQLRLD 480
QY 481 TDQVYGNATYFNENGRVVDTCGNSWSEVLPOIQETTARIIFNGKDLNVERRIAANVPS 540
DB 481 TDQVYGNATYFNENGRVVDTCGNSWSEVLPOIQETTARIIFNGKDLNVERRIAANVPS 540
QY 541 DPLETTKPDMTLKEALKIAGFNEPENGLOYGKDIREFDFNFDQDQTSQNIKNQLAELNA 600
DB 541 DPLETTKPDMTLKEALKIAGFNEPENGLOYGKDIREFDFNFDQDQTSQNIKNQLAELNA 600
QY 601 TNYITVLDKIKLNAKNNILIRDKRFHYDRNNIAGADESVVKEAHREVINSSTEGLLINI 660
DB 601 TNYITVLDKIKLNAKNNILIRDKRFHYDRNNIAGADESVVKEAHREVINSSTEGLLINI 660
QY 661 DKDIRKILSGYVIEIDTEGLKEVINDRYDMLNITSSLRQDGKTFIDFKKYNDKLPYISN 720
DB 661 DKDIRKILSGYVIEIDTEGLKEVINDRYDMLNITSSLRQDGKTFIDFKKYNDKLPYISN 720
QY 721 PNYKNNVAVTKENTIIINPSENGDSTNGIKKILFSSKGYEIG 764
DB 721 PNYKNNVAVTKENTIIINPSENGDSTNGIKKILFSSKGYEIG 764

RESULT 2

US-10-751-103-4
; Sequence 4, Application US/10751103
; Publication No. US20050148529A1
; GENERAL INFORMATION:
; APPLICANT: Schmaljohn, Connie S.
; APPLICANT: Fuller, James T.
; TITLE OF INVENTION: Nucleic Acid Immunization
; CURRENT APPLICATION NUMBER: US/10/751,103
; CURRENT FILING DATE: 2004-01-05
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 4
; LENGTH: 764
; TYPE: PRT
; ORGANISM: Bacillus anthracis
US-10-751-103-4

Query Match 100.0%; Score 3907; DB 5; Length 764;
Best Local Similarity 100.0%; Pred. No. 3.8e-228;
Matches 764; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MKKRKVLIPLMALSTILVSTGNLEVIQAEVKQENRLNSESSESSQGLLYYFSDLNFQA 60
DB 1 MKKRKVLIPLMALSTILVSTGNLEVIQAEVKQENRLNSESSESSQGLLYYFSDLNFQA 60
QY 61 PMVVTSSTTGDLSPSSSELENIPSENQYFQSAIWSGFIKVKKSDDEYTFATSDADNHTVMV 120
DB 61 PMVVTSSTTGDLSPSSSELENIPSENQYFQSAIWSGFIKVKKSDDEYTFATSDADNHTVMV 120
QY 121 DDQEVINKASNNKIRLEKGRLLVQIKIQYQRENPTKGLDPKLYWTDSONKKEVSSDNL 180
DB 121 DDQEVINKASNNKIRLEKGRLLVQIKIQYQRENPTKGLDPKLYWTDSONKKEVSSDNL 180
QY 181 QLPDLKQKSSNRKRSKSTASAGTPVPRDNDGIPDSLEVEGYTVDVKNKRTFTLSPWISNIH 240
DB 181 QLPDLKQKSSNRKRSKSTASAGTPVPRDNDGIPDSLEVEGYTVDVKNKRTFTLSPWISNIH 240
QY 241 EKKGLTYYKSPKSNASTASDPYDFEKTGRIDKNVSPEARHPLVAAYPIVHVDMENIIL 300

DB 241 EKKGLTYYKSPKSNASTASDPYDFEKTGRIDKNVSPEARHPLVAAYPIVHVDMENIIL 300
QY 301 SKNEQSTQNTDSETRISKNVTSRTHSEVHGNAEVHASFDFDGGSVAGFSNSNST 360
DB 301 SKNEQSTQNTDSETRISKNVTSRTHSEVHGNAEVHASFDFDGGSVAGFSNSNST 360
QY 361 VAIDHSLSLAGERTWAETMGLNTADTARLANANIRYVNTGTAPIYVNLPTTSLVLGKQNTL 420
DB 361 VAIDHSLSLAGERTWAETMGLNTADTARLANANIRYVNTGTAPIYVNLPTTSLVLGKQNTL 420
QY 421 ATIKAKENQLSQILAPNNYYPSSKNLAPIALNAQDDFSSTPTMNYNQFLELEKTKQLRLD 480
DB 421 ATIKAKENQLSQILAPNNYYPSSKNLAPIALNAQDDFSSTPTMNYNQFLELEKTKQLRLD 480
QY 481 TDQVYGNATYFNENGRVVDTCGNSWSEVLPOIQETTARIIFNGKDLNVERRIAANVPS 540
DB 481 TDQVYGNATYFNENGRVVDTCGNSWSEVLPOIQETTARIIFNGKDLNVERRIAANVPS 540
QY 541 DPLETTKPDMTLKEALKIAGFNEPENGLOYGKDIREFDFNFDQDQTSQNIKNQLAELNA 600
DB 541 DPLETTKPDMTLKEALKIAGFNEPENGLOYGKDIREFDFNFDQDQTSQNIKNQLAELNA 600
QY 601 TNYITVLDKIKLNAKNNILIRDKRFHYDRNNIAGADESVVKEAHREVINSSTEGLLINI 660
DB 601 TNYITVLDKIKLNAKNNILIRDKRFHYDRNNIAGADESVVKEAHREVINSSTEGLLINI 660
QY 661 DKDIRKILSGYVIEIDTEGLKEVINDRYDMLNITSSLRQDGKTFIDFKKYNDKLPYISN 720
DB 661 DKDIRKILSGYVIEIDTEGLKEVINDRYDMLNITSSLRQDGKTFIDFKKYNDKLPYISN 720
QY 721 PNYKNNVAVTKENTIIINPSENGDSTNGIKKILFSSKGYEIG 764
DB 721 PNYKNNVAVTKENTIIINPSENGDSTNGIKKILFSSKGYEIG 764

RESULT 3

US-10-478-516-30
; Sequence 30, Application US/10478516
; Publication No. US20040208899A1
; GENERAL INFORMATION:
; APPLICANT: Sutton, John M.
; APPLICANT: Shone, Clifford C.
; TITLE OF INVENTION: Pharmaceutical Use of Secreted Bacterial Effector Proteins
; FILE REFERENCE: 1581.1000000
; CURRENT APPLICATION NUMBER: US/10/478,516
; CURRENT FILING DATE: 2003-11-24
; PRIOR APPLICATION NUMBER: PCT/GB02/02384
; PRIOR FILING DATE: 2002-05-21
; PRIOR APPLICATION NUMBER: GB 0112687.9
; PRIOR FILING DATE: 2001-05-24
; NUMBER OF SEQ ID NOS: 32
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 30
; LENGTH: 764
; TYPE: PRT
; ORGANISM: Bacillus anthracis
US-10-478-516-30

Query Match 99.9%; Score 3904; DB 4; Length 764;
Best Local Similarity 99.9%; Pred. No. 5.8e-228;
Matches 763; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MKKRKVLIPLMALSTILVSTGNLEVIQAEVKQENRLNSESSESSQGLLYYFSDLNFQA 60
DB 1 MKKRKVLIPLMALSTILVSTGNLEVIQAEVKQENRLNSESSESSQGLLYYFSDLNFQA 60
QY 61 PMVVTSSTTGDLSPSSSELENIPSENQYFQSAIWSGFIKVKKSDDEYTFATSDADNHTVMV 120
DB 61 PMVVTSSTTGDLSPSSSELENIPSENQYFQSAIWSGFIKVKKSDDEYTFATSDADNHTVMV 120
QY 121 DDQEVINKASNNKIRLEKGRLLVQIKIQYQRENPTKGLDPKLYWTDSONKKEVSSDNL 180

Db 121 DQEVINKASNSKIRLEKRLQYKIYOQRENTEKGLDFKLWYTSQNKKEVISSDNL 180
Qy 181 QLPKQKSSNSRKRSTSGAGTPVDRDNDGIPDSLEVEGYTVVQKKNRFLSPWISNIH 240
Db 181 QLPKQKSSNSRKRSTSGAGTPVDRDNDGIPDSLEVEGYTVVQKKNRFLSPWISNIH 240
Qy 241 EKGLTKYKSPKSWSTASDPYSDFEKVTGRIDKNVSPPEARHPLVAAPIVHVDMENIIL 300
Db 241 EKGLTKYKSPKSWSTASDPYSDFEKVTGRIDKNVSPPEARHPLVAAPIVHVDMENIIL 300
Qy 301 SKNEDQSTQNTDSTRTISKNTSTSRTHTSRVHGNAEVHASFDDIGGSVAGFSNSNST 360
Db 301 SKNEDQSTQNTDSTRTISKNTSTSRTHTSRVHGNAEVHASFDDIGGSVAGFSNSNST 360
Qy 361 VAIDHSLSLAGERWTAETMGLNTADTARLANIRYVNTGTAPIYNNVPTTSLVLGKQNTL 420
Db 361 VAIDHSLSLAGERWTAETMGLNTADTARLANIRYVNTGTAPIYNNVPTTSLVLGKQNTL 420
Qy 421 ATIKAKENQLSQILAPNNYPSKNLAPIALNAQDDPSPTITMNYNQFLELEKTKQLRLD 480
Db 421 ATIKAKENQLSQILAPNNYPSKNLAPIALNAQDDPSPTITMNYNQFLELEKTKQLRLD 480
Qy 481 TDQVYGNIAIYNFENGVRVDTGNSWSEVLPOIQETTARIIFNGKOLNLVERRIAAVNPS 540
Db 481 TDQVYGNIAIYNFENGVRVDTGNSWSEVLPOIQETTARIIFNGKOLNLVERRIAAVNPS 540
Qy 541 DPLETTKPDMTLKEALKIARFNEPNGNLQYQKDIITEFDNFPOQTSQNIKNQLAELNA 600
Db 541 DPLETTKPDMTLKEALKIARFNEPNGNLQYQKDIITEFDNFPOQTSQNIKNQLAELNA 600
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Db 601 TNYITVLDKIKLNAKNNILIRDKRFHYDRNNIAVGADESVVKEAAREVINSSTEGLLNI 660
Qy 661 DKDIRKILSGYIIVEIEDTEGLKEVINDRYDMLNISSLRQDGKTFIDFKYNDKLPYISN 720
Db 661 DKDIRKILSGYIIVEIEDTEGLKEVINDRYDMLNISSLRQDGKTFIDFKYNDKLPYISN 720
Qy 721 PNYKVNVAVTKENTIINPSENGDTSTNGIKKILIFSKKGVEIG 764
Db 721 PNYKVNVAVTKENTIINPSENGDTSTNGIKKILIFSKKGVEIG 764

RESULT 4

US-10-245-871-681
; Sequence 681, Application US/10245871
; Publication No. US20030235594A1
; GENERAL INFORMATION:
; APPLICANT: HUMPHREYS, ROBERT
; APPLICANT: XU, MINZHEN
; TITLE OF INVENTION: Ii-KEY/ANTIGENIC EPITOPE HYBRID PEPTIDE VACCINES
; FILE REFERENCE: REH-2013
; CURRENT APPLICATION NUMBER: US/10/245,871
; CURRENT FILING DATE: 2003-01-09
; PRIOR FILING DATE: 10/197,000
; PRIOR FILING DATE: 2002-07-17
; PRIOR APPLICATION NUMBER: 09/396,813
; PRIOR FILING DATE: 1999-09-14
; NUMBER OF SEQ ID NOS: 905
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 681
; LENGTH: 764
; TYPE: PRT
; ORGANISM: Bacillus anthracis
US-10-245-871-681

Query Match 99.8%; Score 3900; DB 4; Length 764;
Best Local Similarity 99.7%; Pred. No. 1e-227;
Matches 762; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MKKRKVLIPMALSTILVSTGNLEVIQAEVKQENRLNLSSESSQGLGYFSDLNFOA 60
Db 1 MKKRKVLIPMALSTILVSTGNLEVIQAEVKQENRLNLSSESSQGLGYFSDLNFOA 60

Qy 61 PMVVTSTTGDLSIPSSSELENIIPSENQYFQSAIWSGFIKVKKSDYEYFATSADNHVTMWV 120
Db 61 PMVVTSTTGDLSIPSSSELENIIPSENQYFQSAIWSGFIKVKKSDYEYFATSADNHVTMWV 120
Qy 121 DQEVINKASNSKIRLEKRLQYKIYOQRENTEKGLDFKLWYTSQNKKEVISSDNL 180
Db 121 DQEVINKASNSKIRLEKRLQYKIYOQRENTEKGLDFKLWYTSQNKKEVISSDNL 180
Qy 181 QLPKQKSSNSRKRSTSGAGTPVDRDNDGIPDSLEVEGYTVVQKKNRFLSPWISNIH 240
Db 181 QLPKQKSSNSRKRSTSGAGTPVDRDNDGIPDSLEVEGYTVVQKKNRFLSPWISNIH 240
Qy 241 EKGLTKYKSPKSWSTASDPYSDFEKVTGRIDKNVSPPEARHPLVAAPIVHVDMENIIL 300
Db 241 EKGLTKYKSPKSWSTASDPYSDFEKVTGRIDKNVSPPEARHPLVAAPIVHVDMENIIL 300
Qy 301 SKNEDQSTQNTDSTRTISKNTSTSRTHTSRVHGNAEVHASFDDIGGSVAGFSNSNST 360
Db 301 SKNEDQSTQNTDSTRTISKNTSTSRTHTSRVHGNAEVHASFDDIGGSVAGFSNSNST 360
Qy 361 VAIDHSLSLAGERWTAETMGLNTADTARLANIRYVNTGTAPIYNNVPTTSLVLGKQNTL 420
Db 361 VAIDHSLSLAGERWTAETMGLNTADTARLANIRYVNTGTAPIYNNVPTTSLVLGKQNTL 420
Qy 421 ATIKAKENQLSQILAPNNYPSKNLAPIALNAQDDPSPTITMNYNQFLELEKTKQLRLD 480
Db 421 ATIKAKENQLSQILAPNNYPSKNLAPIALNAQDDPSPTITMNYNQFLELEKTKQLRLD 480
Qy 481 TDQVYGNIAIYNFENGVRVDTGNSWSEVLPOIQETTARIIFNGKOLNLVERRIAAVNPS 540
Db 481 TDQVYGNIAIYNFENGVRVDTGNSWSEVLPOIQETTARIIFNGKOLNLVERRIAAVNPS 540
Qy 541 DPLETTKPDMTLKEALKIARFNEPNGNLQYQKDIITEFDNFPOQTSQNIKNQLAELNA 600
Db 541 DPLETTKPDMTLKEALKIARFNEPNGNLQYQKDIITEFDNFPOQTSQNIKNQLAELNA 600
Qy 601 TNYITVLDKIKLNAKNNILIRDKRFHYDRNNIAVGADESVVKEAAREVINSSTEGLLNI 660
Db 601 TNYITVLDKIKLNAKNNILIRDKRFHYDRNNIAVGADESVVKEAAREVINSSTEGLLNI 660
Qy 661 DKDIRKILSGYIIVEIEDTEGLKEVINDRYDMLNISSLRQDGKTFIDFKYNDKLPYISN 720
Db 661 DKDIRKILSGYIIVEIEDTEGLKEVINDRYDMLNISSLRQDGKTFIDFKYNDKLPYISN 720
Qy 721 PNYKVNVAVTKENTIINPSENGDTSTNGIKKILIFSKKGVEIG 764
Db 721 PNYKVNVAVTKENTIINPSENGDTSTNGIKKILIFSKKGVEIG 764

RESULT 5

US-10-253-286-681
; Sequence 681, Application US/10253286
; Publication No. US20040058881A1
; GENERAL INFORMATION:
; APPLICANT: HUMPHREYS, ROBERT
; APPLICANT: XU, MINZHEN
; TITLE OF INVENTION: Ii-KEY/ANTIGENIC EPITOPE HYBRID PEPTIDE VACCINES
; FILE REFERENCE: REH-2015
; CURRENT APPLICATION NUMBER: US/10/253,286
; CURRENT FILING DATE: 2003-01-13
; PRIOR FILING DATE: 10/197,000
; PRIOR FILING DATE: 2002-07-17
; PRIOR APPLICATION NUMBER: 09/396,813
; PRIOR FILING DATE: 1999-09-14
; NUMBER OF SEQ ID NOS: 905
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 681
; LENGTH: 764
; TYPE: PRT
; ORGANISM: Bacillus anthracis
US-10-253-286-681

Query Match 99.8%; Score 3900; DB 4; Length 764;
Best Local Similarity 99.7%; Pred. No. 1e-227; Indels 0; Gaps 0;
Matches 762; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MKKKKVLIPLMALSTILVSSGTGNLEVIQAEVKQENRLLNESSESSQGLLYGYYFSDLNFOA 60
DB 1 MKKKKVLIPLMALSTILVSSGTGNLEVIQAEVKQENRLLNESSESSQGLLYGYYFSDLNFOA 60

QY 61 PMVVTSTTGDLSIPSSSELENIPSENOYFQSAIWSGFIKVKKSDEYTFATSAADNHVTMMV 120
DB 61 PMVVTSTTGDLSIPSSSELENIPSENOYFQSAIWSGFIKVKKSDEYTFATSAADNHVTMMV 120

QY 121 DQDEVINKASNNKIRLEKGRLYOIKYOORENTEKGLDFKLYWTDSONKKEVISSDNL 180
DB 121 DQDEVINKASNNKIRLEKGRLYOIKYOORENTEKGLDFKLYWTDSONKKEVISSDNL 180

QY 181 QLPKQKSSNSRKKRSTASGPTVDRDNGIPDSLEVEGYTVVKNKRTFLSPWISNIH 240
DB 181 QLPKQKSSNSRKKRSTASGPTVDRDNGIPDSLEVEGYTVVKNKRTFLSPWISNIH 240

QY 241 EKKGTLKYKSSPEKWSASDPYSDFEKVTGRIDKNVSPPEARHPLVAAYPIVHVDMENIIL 300
DB 241 EKKGTLKYKSSPEKWSASDPYSDFEKVTGRIDKNVSPPEARHPLVAAYPIVHVDMENIIL 300

QY 301 SKNEQSTQNTDSETRTISKNTSTSRHTSEVHGNAEVHASFFDGGSVAGFSNSNST 360
DB 301 SKNEQSTQNTDSETRTISKNTSTSRHTSEVHGNAEVHASFFDGGSVAGFSNSNST 360

QY 361 VAIDHSLSLAGERTWAETMGLNTADTARLANIRYVNTGTAPIYVNLPTTSLVLGKNQTL 420
DB 361 VAIDHSLSLAGERTWAETMGLNTADTARLANIRYVNTGTAPIYVNLPTTSLVLGKNQTL 420

QY 421 ATIKAKENQLSOILAPNNYTPSKNLAIPALNAQDDFSSPTIMYNOFLEKTKQLRLD 480
DB 421 ATIKAKENQLSOILAPNNYTPSKNLAIPALNAQDDFSSPTIMYNOFLEKTKQLRLD 480

QY 481 TDQVYGNIAFYNGRVRVDTGSNWSEVLPOIQTETARIIFNGKDLNVERRIAANVPS 540
DB 481 TDQVYGNIAFYNGRVRVDTGSNWSEVLPOIQTETARIIFNGKDLNVERRIAANVPS 540

QY 541 DPLETKPDMTLKEALKIAPGNPNLQYQKQDITFEFDFNFQDQTSQNIKNQLAELNA 600
DB 541 DPLETKPDMTLKEALKIAPGNPNLQYQKQDITFEFDFNFQDQTSQNIKNQLAELNA 600

QY 601 TNYTVLDKIKLNAAKNLIRDRKFRHYDRNNIAGADESVVKEAHREVINSSTEGLLNI 660
DB 601 TNYTVLDKIKLNAAKNLIRDRKFRHYDRNNIAGADESVVKEAHREVINSSTEGLLNI 660

QY 661 DKDIRKILSGYIVEIEDTEGLKEVINDRYDMLNISLRQDGKTFIDFKYNDKLPYISN 720
DB 661 DKDIRKILSGYIVEIEDTEGLKEVINDRYDMLNISLRQDGKTFIDFKYNDKLPYISN 720

QY 721 PNYKVNVAVTKENTIINPSENGDTSTNGIKKILIFSKKGYEIG 764
DB 721 PNYKVNVAVTKENTIINPSENGDTSTNGIKKILIFSKKGYEIG 764

RESULT 6

US-10-442-502-5
; Sequence 5, Application US/10442502
; Publication No. US20040009945A1
; GENERAL INFORMATION:
; APPLICANT: LEE, JOHN SCOTT
; APPLICANT: PUSKHO, PETER
; APPLICANT: PARKER, MICHAEL D.
; APPLICANT: SMITH, JONATHAN F.
; APPLICANT: WELKOS, SUSAN L.
; TITLE OF INVENTION: ANTHRAX VACCINES
; FILE REFERENCE: ARMY135B
; CURRENT APPLICATION NUMBER: US/10/442,502
; PRIOR FILING DATE: 2003-05-21
; PRIOR FILING DATE: 1999-07-09

Query Match 97.4%; Score 3806.5; DB 4; Length 763;
Best Local Similarity 97.8%; Pred. No. 4.7e-222; Indels 3; Gaps 1;
Matches 745; Conservative 5; Mismatches 9; Indels 3; Gaps 1;

QY 3 KRKVLTPLMALSTILVSSGTGNLEVIQAEVKQENRLLNESSESSQGLLYGYYFSDLNFOAPM 62
DB 5 KRGLCCVLLLCGAVFVSAS---EVIQAEVKQENRLLNESSESSQGLLYGYYFSDLNFOAPM 61

QY 63 VVTSTTGDLSIPSSSELENIPSENOYFQSAIWSGFIKVKKSDEYTFATSAADNHVTMMVDD 122
DB 62 VVTSTTGDLSIPSSSELENIPSENOYFQSAIWSGFIKVKKSDEYTFATSAADNHVTMMVDD 121

QY 123 QEVINKASNNKIRLEKGRLYOIKYOORENTEKGLDFKLYWTDSONKKEVISSDNLQ 182
DB 122 QEVINKASNNKIRLEKGRLYOIKYOORENTEKGLDFKLYWTDSONKKEVISSDNLQ 181

QY 183 PELKQKSSNSRKKRSTASGPTVDRDNGIPDSLEVEGYTVVKNKRTFLSPWISNIHEK 242
DB 182 PELKQKSSNSRKKRSTASGPTVDRDNGIPDSLEVEGYTVVKNKRTFLSPWISNIHEK 241

QY 243 KGLTKYKSSPEKWSASDPYSDFEKVTGRIDKNVSPPEARHPLVAAYPIVHVDMENIILSK 302
DB 242 KGLTKYKSSPEKWSASDPYSDFEKVTGRIDKNVSPPEARHPLVAAYPIVHVDMENIILSK 301

QY 303 NEDASTQNTDSETRTISKNTSTSRHTSEVHGNAEVHASFFDGGSVAGFSNSNSTVA 362
DB 302 NEDASTQNTDSETRTISKNTSTSRHTSEVHGNAEVHASFFDGGSVAGFSNSNSTVA 361

QY 363 TDHSLSLAGERTWAETMGLNTADTARLANIRYVNTGTAPIYVNLPTTSLVLGKNQTLAT 422
DB 362 TDHSLSLAGERTWAETMGLNTADTARLANIRYVNTGTAPIYVNLPTTSLVLGKNQTLAT 421

QY 423 IKAKENQLSOILAPNNYTPSKNLAIPALNAQDDFSSPTIMYNOFLEKTKQLRLD 482
DB 422 IKAKENQLSOILAPNNYTPSKNLAIPALNAQDDFSSPTIMYNOFLEKTKQLRLD 481

QY 483 QYVGNIAFYNGRVRVDTGSNWSEVLPOIQTETARIIFNGKDLNVERRIAANVPSDP 542
DB 482 QYVGNIAFYNGRVRVDTGSNWSEVLPOIQTETARIIFNGKDLNVERRIAANVPSDP 541

QY 543 LETTKPDMTLKEALKIAPGNPNLQYQKQDITFEFDFNFQDQTSQNIKNQLAELNATN 602
DB 542 LETTKPDMTLKEALKIAPGNPNLQYQKQDITFEFDFNFQDQTSQNIKNQLAELNATN 601

QY 603 IYTVLDKIKLNAAKNLIRDRKFRHYDRNNIAGADESVVKEAHREVINSSTEGLLNIDK 662
DB 602 IYTVLDKIKLNAAKNLIRDRKFRHYDRNNIAGADESVVKEAHREVINSSTEGLLNIDK 661

QY 663 DIRKILSGYIVEIEDTEGLKEVINDRYDMLNISLRQDGKTFIDFKYNDKLPYISNPN 722
DB 662 DIRKILSGYIVEIEDTEGLKEVINDRYDMLNISLRQDGKTFIDFKYNDKLPYISNPN 721

QY 723 YKVNVAVTKENTIINPSENGDTSTNGIKKILIFSKKGYEIG 764
DB 722 YKVNVAVTKENTIINPSENGDTSTNGIKKILIFSKKGYEIG 763

RESULT 7

US-09-747-521-4
; Sequence 4, Application US/09747521
; Patent No. US20020051791A1
; GENERAL INFORMATION:
; APPLICANT: Galloway, Darrel

; APPLICANT: Mateczun, Alfred
; TITLE OF INVENTION: Methods for Protection Against Lethal Infection with Bacillus Anthracis
; FILE REFERENCE: 22727/04079
; CURRENT APPLICATION NUMBER: US/09/747,521
; CURRENT FILING DATE: 2000-12-21
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: Patent in version 3.0
; SEQ ID NO 4
; TYPE: PRT
; ORGANISM: Bacillus anthracis
US-09-747-521-4

Query Match 97.3%; Score 3800; DB 3; Length 764;
Best Local Similarity 97.6%; Pred. No. 1.2e-221;
Matches 746; Conservative 2; Mismatches 16; Indels 0; Gaps 0;

Qy	1	MKKRVLIPLMALSTILVSSGNGLEVIQAEVKQENRLLNESSSQGLGYYFSDLNQ	60
Db	1	MKKRVLIPLMALSTILVSSGNGLEVIQAEVKQENRLLNESSSQGLGYYFSDLNQ	60
Qy	61	PMVVTSSTTGDLSPSSSELENIPSENQYFQSAIWSGFIKVKKSDYTTATSDADNHVTMV	120
Db	61	PMVVTSSTTGDLSPSSSELENIPSENQYFQSAIWSGFIKVKKSDYTTATSDADNHVTMV	120
Qy	121	DDQEVINKASNSKIRLEKGRLYQIKIQYQRENPTKEGLDFKLYWTDSONKKEVISSDNL	180
Db	121	DDQEVINKASNSKIRLEKGRLYQIKIQYQRENPTKEGLDFKLYWTDSONKKEVISSDNL	180
Qy	181	QLPELKQKSSNSRKKRSTSGAGTVPDRNDGIPDSLEVEGYTVDVKNKRTFLSPWISNIH	240
Db	181	QLPELKQKSSNSRKKRSTSGAGTVPDRNDGIPDSLEVEGYTVDVKNKRTFLSPWISNIH	240
Qy	241	EKKGLTKYKSSPEKWSSTADPSDEKVTGRIDKNVSPPEARHPLVAAPYIVHVDMENIIL	300
Db	241	EKKGLTKYKSSPEKWSSTADPSDEKVTGRIDKNVSPPEARHPLVAAPYIVHVDMENIIL	300
Qy	301	SKNEDQSTQNTDSETRTISKNTSTSRHTSEVHGNAEVAHSPFDIGGSVAGFSNSNST	360
Db	301	SKNEDQSTQNTDSETRTISKNTSTSRHTSEVHGNAEVAHSPFDIGGSVAGFSNSNST	360
Qy	361	VAIDHSLSLAGERTWAETMGLNTADTARLNANIRYVNTGTAPIYVNLPTTSLVLGKQNTL	420
Db	361	VAIDHSLSLAGERTWAETMGLNTADTARLNANIRYVNTGTAPIYVNLPTTSLVLGKQNTL	420
Qy	421	ATIKAKENQLSQIILAPNNYPSKNLAPALNAQDDFSSTPTIMYNNQFLELEKTKQLRLD	480
Db	421	ATIKAKENQLSQIILAPNNYPSKNLAPALNAQDDFSSTPTIMYNNQFLELEKTKQLRLD	480
Qy	481	TDQVYGNATYFNENGRVVRVDTGSNWSSEVLPIQIETTARIIFNGKDLNLVERRIAAVNPS	540
Db	481	TDQVYGNATYFNENGRVVRVDTGSNWSSEVLPIQIETTARIIFNGKDLNLVERRIAAVNPS	540
Qy	541	DPLETTKPDMTLKEALKIAFGNPNGLQYQKDIITEFDNFDOQTSONIKNQLAELNA	600
Db	541	DPLETTKPDMTLKEALKIAFGNPNGLQYQKDIITEFDNFDOQTSONIKNQLAELNA	600
Qy	601	TNIYTVLDKIKLNAMNLIIRDKPHYDRNNIIVAGADESVVKEAHREVINSTEGLLLNI	660
Db	601	TNIYTVLDKIKLNAMNLIIRDKPHYDRNNIIVAGADESVVKEAHREVINSTEGLLLNI	660
Qy	661	DKDIRKILSGYIVIEDETEGLKEVINDRYDMLNSSLRQDGKTFIDFKKYNDKLPYISN	720
Db	661	DKDIRKILSGYIVIEDETEGLKEVINDRYDMLNSSLRQDGKTFIDFKKYNDKLPYISN	720
Qy	721	PNYKVNVAVTKENTIINPSENGDSTNGIKKILIFSKKGYEIG	764
Db	721	PNYKVNVAVTKENTIINPSENGDSTNGIKKILIFSKKGYEIG	764

RESULT 8
US-10-106-014-4
; Sequence 4, Application US/10106014

; Publication No. US20020142002A1
; GENERAL INFORMATION:
; APPLICANT: Galloway, Darrel R.
; APPLICANT: Mateczun, Alfred J.
; TITLE OF INVENTION: Methods for Protection Against Lethal Infection with Bacillus Anthracis
; FILE REFERENCE: 22727/04114
; CURRENT APPLICATION NUMBER: US/10/106,014
; CURRENT FILING DATE: 2002-03-25
; PRIOR APPLICATION NUMBER: US 09/747,521
; PRIOR FILING DATE: 2000-12-21
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 4
; LENGTH: 764
; TYPE: PRT
; ORGANISM: Bacillus anthracis
US-10-106-014-4

Query Match 97.3%; Score 3800; DB 4; Length 764;
Best Local Similarity 97.6%; Pred. No. 1.2e-221;
Matches 746; Conservative 2; Mismatches 16; Indels 0; Gaps 0;

Qy	1	MKKRVLIPLMALSTILVSSGNGLEVIQAEVKQENRLLNESSSQGLGYYFSDLNQ	60
Db	1	MKKRVLIPLMALSTILVSSGNGLEVIQAEVKQENRLLNESSSQGLGYYFSDLNQ	60
Qy	61	PMVVTSSTTGDLSPSSSELENIPSENQYFQSAIWSGFIKVKKSDYTTATSDADNHVTMV	120
Db	61	PMVVTSSTTGDLSPSSSELENIPSENQYFQSAIWSGFIKVKKSDYTTATSDADNHVTMV	120
Qy	121	DDQEVINKASNSKIRLEKGRLYQIKIQYQRENPTKEGLDFKLYWTDSONKKEVISSDNL	180
Db	121	DDQEVINKASNSKIRLEKGRLYQIKIQYQRENPTKEGLDFKLYWTDSONKKEVISSDNL	180
Qy	181	QLPELKQKSSNSRKKRSTSGAGTVPDRNDGIPDSLEVEGYTVDVKNKRTFLSPWISNIH	240
Db	181	QLPELKQKSSNSRKKRSTSGAGTVPDRNDGIPDSLEVEGYTVDVKNKRTFLSPWISNIH	240
Qy	241	EKKGLTKYKSSPEKWSSTADPSDEKVTGRIDKNVSPPEARHPLVAAPYIVHVDMENIIL	300
Db	241	EKKGLTKYKSSPEKWSSTADPSDEKVTGRIDKNVSPPEARHPLVAAPYIVHVDMENIIL	300
Qy	301	SKNEDQSTQNTDSETRTISKNTSTSRHTSEVHGNAEVAHSPFDIGGSVAGFSNSNST	360
Db	301	SKNEDQSTQNTDSETRTISKNTSTSRHTSEVHGNAEVAHSPFDIGGSVAGFSNSNST	360
Qy	361	VAIDHSLSLAGERTWAETMGLNTADTARLNANIRYVNTGTAPIYVNLPTTSLVLGKQNTL	420
Db	361	VAIDHSLSLAGERTWAETMGLNTADTARLNANIRYVNTGTAPIYVNLPTTSLVLGKQNTL	420
Qy	421	ATIKAKENQLSQIILAPNNYPSKNLAPALNAQDDFSSTPTIMYNNQFLELEKTKQLRLD	480
Db	421	ATIKAKENQLSQIILAPNNYPSKNLAPALNAQDDFSSTPTIMYNNQFLELEKTKQLRLD	480
Qy	481	TDQVYGNATYFNENGRVVRVDTGSNWSSEVLPIQIETTARIIFNGKDLNLVERRIAAVNPS	540
Db	481	TDQVYGNATYFNENGRVVRVDTGSNWSSEVLPIQIETTARIIFNGKDLNLVERRIAAVNPS	540
Qy	541	DPLETTKPDMTLKEALKIAFGNPNGLQYQKDIITEFDNFDOQTSONIKNQLAELNA	600
Db	541	DPLETTKPDMTLKEALKIAFGNPNGLQYQKDIITEFDNFDOQTSONIKNQLAELNA	600
Qy	601	TNIYTVLDKIKLNAMNLIIRDKPHYDRNNIIVAGADESVVKEAHREVINSTEGLLLNI	660
Db	601	TNIYTVLDKIKLNAMNLIIRDKPHYDRNNIIVAGADESVVKEAHREVINSTEGLLLNI	660
Qy	661	DKDIRKILSGYIVIEDETEGLKEVINDRYDMLNSSLRQDGKTFIDFKKYNDKLPYISN	720
Db	661	DKDIRKILSGYIVIEDETEGLKEVINDRYDMLNSSLRQDGKTFIDFKKYNDKLPYISN	720
Qy	721	PNYKVNVAVTKENTIINPSENGDSTNGIKKILIFSKKGYEIG	764
Db	721	PNYKVNVAVTKENTIINPSENGDSTNGIKKILIFSKKGYEIG	764

```
RESULT 9
US-10-105-695-4
; Sequence 4, Application US/10105695
; Publication No. US20020197272A1
; GENERAL INFORMATION:
; APPLICANT: Galloway, Darrel R.
; APPLICANT: Mateczun, Alfred J.
; TITLE OF INVENTION: Methods for Protection Against Lethal Infection with Bacillus Ant
; FILE REFERENCE: 22727/04115
; CURRENT APPLICATION NUMBER: US/10/105,695
; CURRENT FILING DATE: 2002-03-25
; PRIOR APPLICATION NUMBER: US 09/747,521
; PRIOR FILING DATE: 2000-12-21
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 4
; LENGTH: 764
; TYPE: PRT
; ORGANISM: Bacillus anthracis
US-10-105-695-4

Query Match          97.3%; Score 3800; DB 4; Length 764;
Best Local Similarity 97.6%; Pred. No. 1.2e-221;
Matches 746; Conservative 2; Mismatches 16; Indels 0; Gaps 0;

QY 1 MKKRKVLPLMALSTILVSTGNLEVIQAEVKQENRLNLSSESSQGLLGYFFDLNFOA 60
DB 1 MKKRKVLPLMALSTILVSTGNLEVIQAEVKQENRLNLSSESSQGLLGYFFDLNFOA 60
QY 61 PMVVTSSTTGDLSTIPSSSELENIPSENOYFQSAIWSGFIKVKSDDEYTFATSDNHNVTMWV 120
DB 61 PMVVTSSTTGDLSTIPSSSELENIPSENOYFQSAIWSGFIKVKSDDEYTFATSDNHNVTMWV 120
QY 121 DDOEVINKASNNIRLEKGRLYQIKIQYQRENTEKGLDFKLYWTDQNKKEVISSDNL 180
DB 121 DDOEVINKASNNIRLEKGRLYQIKIQYQRENTEKGLDFKLYWTDQNKKEVISSDNL 180
QY 181 QLPKQKSSNRKRSSTAGPTVPDRNDGIPDSLEVEGYTVDYKKNRTFLSPWISNIH 240
DB 181 QLPKQKSSNRKRSSTAGPTVPDRNDGIPDSLEVEGYTVDYKKNRTFLSPWISNIH 240
QY 241 EKKGLTKYKSSPEKWSASDPYSDFEKTGRIDKNVSPPEARHPLVAAYPIVHVDMENIIL 300
DB 241 EKKGLTKYKSSPEKWSASDPYSDFEKTGRIDKNVSPPEARHPLVAAYPIVHVDMENIIL 300
QY 301 SKNEDQSTONTDSETRTISKNTSTSRHTSEVHGNAEVHASFDDIGGSVAGFSNSNST 360
DB 301 SKNEDQSTONTDSETRTISKNTSTSRHTSEVHGNAEVHASFDDIGGSVAGFSNSNST 360
QY 361 VAIDHSLSLAGERTWAETMGLNTADTARLANANIRYNTGTAPIYNNVLTPTSLVLGNQTL 420
DB 361 VAIDHSLSLAGERTWAETMGLNTADTARLANANIRYNTGTAPIYNNVLTPTSLVLGNQTL 420
QY 421 ATIKAKENQLSOILAPNNYPSKNLAPIALNAQDDPSPTITMNYNOFLEKTKQLRLD 480
DB 421 ATIKAKENQLSOILAPNNYPSKNLAPIALNAQDDPSPTITMNYNOFLEKTKQLRLD 480
QY 481 TDQVYGNIAATYFNGRVRVDTGSNWEVLPOIQTETARIIFNGKDLNVERRIAANPS 540
DB 481 TDQVYGNIAATYFNGRVRVDTGSNWEVLPOIQTETARIIFNGKDLNVERRIAANPS 540
QY 541 DPLETTKPDWTLKEALKATAFGNEPNGNLOYGKDKITEFDNFDOQTQSNIKNOIAELNA 600
DB 541 DPLETTKPDWTLKEALKATAFGNEPNGNLOYGKDKITEFDNFDOQTQSNIKNOIAELNA 600
QY 601 TNYTYVLDKIKLNAMNNILIRDKRPHYDRNNIAGVADSVVKEAHEVINSSTEGLLNI 660
DB 601 TNYTYVLDKIKLNAMNNILIRDKRPHYDRNNIAGVADSVVKEAHEVINSSTEGLLNI 660
QY 661 DKDIRKILSGYIVETEDGLKEVINDRYDMLNLISSLRQDGKTFIDFKKYNKDLPLYISN 720
DB 661 DKDIRKILSGYIVETEDGLKEVINDRYDMLNLISSLRQDGKTFIDFKKYNKDLPLYISN 720
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DB 661 DKDIRKILSGYIVETEDGLKEVINDRYDMLNLISSLRQDGKTFIDFKKYNKDLPLYISN 720
QY 721 PNYKVVAVYKNTIINPSENGDTSNGIKKILIFSKKGYEIG 764
DB 721 PNYKVVAVYKNTIINPSENGDTSNGIKKILIFSKKGYEIG 764

RESULT 10
US-10-105-694-4
; Sequence 4, Application US/10105694
; Publication No. US20030030109A1
; GENERAL INFORMATION:
; APPLICANT: Galloway, Darrel R.
; APPLICANT: Mateczun, Alfred J.
; TITLE OF INVENTION: Methods for Protection Against Lethal Infection with Bacillus Ant
; FILE REFERENCE: 22727/04116
; CURRENT APPLICATION NUMBER: US/10/105,694
; CURRENT FILING DATE: 2002-03-25
; PRIOR APPLICATION NUMBER: US 09/747,521
; PRIOR FILING DATE: 2000-12-21
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 4
; LENGTH: 764
; TYPE: PRT
; ORGANISM: Bacillus anthracis
US-10-105-694-4

Query Match          97.3%; Score 3800; DB 4; Length 764;
Best Local Similarity 97.6%; Pred. No. 1.2e-221;
Matches 746; Conservative 2; Mismatches 16; Indels 0; Gaps 0;

QY 1 MKKRKVLPLMALSTILVSTGNLEVIQAEVKQENRLNLSSESSQGLLGYFFDLNFOA 60
DB 1 MKKRKVLPLMALSTILVSTGNLEVIQAEVKQENRLNLSSESSQGLLGYFFDLNFOA 60
QY 61 PMVVTSSTTGDLSTIPSSSELENIPSENOYFQSAIWSGFIKVKSDDEYTFATSDNHNVTMWV 120
DB 61 PMVVTSSTTGDLSTIPSSSELENIPSENOYFQSAIWSGFIKVKSDDEYTFATSDNHNVTMWV 120
QY 121 DDOEVINKASNNIRLEKGRLYQIKIQYQRENTEKGLDFKLYWTDQNKKEVISSDNL 180
DB 121 DDOEVINKASNNIRLEKGRLYQIKIQYQRENTEKGLDFKLYWTDQNKKEVISSDNL 180
QY 181 QLPKQKSSNRKRSSTAGPTVPDRNDGIPDSLEVEGYTVDYKKNRTFLSPWISNIH 240
DB 181 QLPKQKSSNRKRSSTAGPTVPDRNDGIPDSLEVEGYTVDYKKNRTFLSPWISNIH 240
QY 241 EKKGLTKYKSSPEKWSASDPYSDFEKTGRIDKNVSPPEARHPLVAAYPIVHVDMENIIL 300
DB 241 EKKGLTKYKSSPEKWSASDPYSDFEKTGRIDKNVSPPEARHPLVAAYPIVHVDMENIIL 300
QY 301 SKNEDQSTONTDSETRTISKNTSTSRHTSEVHGNAEVHASFDDIGGSVAGFSNSNST 360
DB 301 SKNEDQSTONTDSETRTISKNTSTSRHTSEVHGNAEVHASFDDIGGSVAGFSNSNST 360
QY 361 VAIDHSLSLAGERTWAETMGLNTADTARLANANIRYNTGTAPIYNNVLTPTSLVLGNQTL 420
DB 361 VAIDHSLSLAGERTWAETMGLNTADTARLANANIRYNTGTAPIYNNVLTPTSLVLGNQTL 420
QY 421 ATIKAKENQLSOILAPNNYPSKNLAPIALNAQDDPSPTITMNYNOFLEKTKQLRLD 480
DB 421 ATIKAKENQLSOILAPNNYPSKNLAPIALNAQDDPSPTITMNYNOFLEKTKQLRLD 480
QY 481 TDQVYGNIAATYFNGRVRVDTGSNWEVLPOIQTETARIIFNGKDLNVERRIAANPS 540
DB 481 TDQVYGNIAATYFNGRVRVDTGSNWEVLPOIQTETARIIFNGKDLNVERRIAANPS 540
QY 541 DPLETTKPDWTLKEALKATAFGNEPNGNLOYGKDKITEFDNFDOQTQSNIKNOIAELNA 600
DB 541 DPLETTKPDWTLKEALKATAFGNEPNGNLOYGKDKITEFDNFDOQTQSNIKNOIAELNA 600
QY 601 TNYTYVLDKIKLNAMNNILIRDKRPHYDRNNIAGVADSVVKEAHEVINSSTEGLLNI 660
DB 601 TNYTYVLDKIKLNAMNNILIRDKRPHYDRNNIAGVADSVVKEAHEVINSSTEGLLNI 660
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Db 601 TNYITVLDKIKLNAKQNTLIRDKRPHYDRNNIAVGADESVVVKEAHRREVINSSTEGLLINI 660
Qy 661 DKDIRKILSGYIVETEDTEGLKEVENDRYDMLNSSLRQDQKTFIDFKYNDKPLXYISN 720
Db 661 DKDIRKILSGYIVETEDTEGLKEVENDRYDMLNSSLRQDQKTFIDFKYNDKPLXYISN 720
Qy 721 PNYKVVYAVTKENTIINPSENGDTSTNGIKKILIFSKKGYEIG 764
Db 721 PNYKVVYAVTKENTIINPSENGDTSTNGIKKILIFSKKGYEIG 764

RESULT 11
US-10-410-647-30
; Sequence 30, Application US/10410647
; Publication No. US20030235818A1
; GENERAL INFORMATION:
; APPLICANT: PLEXUS VACCINE, INC.
; APPLICANT: Katritch, Vsevolod
; APPLICANT: Bordner, Andrew
; APPLICANT: Deans, Robert
; APPLICANT: Sumner, Mary
; TITLE OF INVENTION: IMMUNOGENIC PEPTIDES, AND METHOD OF IDENTIFYING SAME
; FILE REFERENCE: PLEX1110-1
; CURRENT APPLICATION NUMBER: US/10/410,647
; PRIOR FILING DATE: 2003-04-08
; PRIOR APPLICATION NUMBER: US 60/373,668
; PRIOR FILING DATE: 2002-04-17
; PRIOR APPLICATION NUMBER: US 60/371,256
; PRIOR FILING DATE: 2002-04-08
; PRIOR APPLICATION NUMBER: US 60/371,250
; PRIOR FILING DATE: 2002-04-08
; NUMBER OF SEQ ID NOS: 46
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 30
; LENGTH: 735
; TYPE: PRT
; ORGANISM: Bacillus anthracis
US-10-410-647-30

Query Match 96.6%; Score 3774; DB 4; Length 735;
Best Local Similarity 100.0%; Pred. No. 4.1e-220;
Matches 735; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 30 EVKQENRLNSESQGLGYFSDLNFOAPMVVTSSTTGDLSIPSELENIPSENOYF 89
Db 1 EVKQENRLNSESQGLGYFSDLNFOAPMVVTSSTTGDLSIPSELENIPSENOYF 60
Qy 90 QSAIWSGFIKVKSDDEYTFATSDNHVTMWVDDQEVINKASNSNKIRLEKGRLLYQIKIY 149
Db 61 QSAIWSGFIKVKSDDEYTFATSDNHVTMWVDDQEVINKASNSNKIRLEKGRLLYQIKIY 120
Qy 150 QRENPTKGLDFKLYWTDSONKKEVISSDNLQLPELKQKSSNRKRSSTAGTPVPRDN 209
Db 121 QRENPTKGLDFKLYWTDSONKKEVISSDNLQLPELKQKSSNRKRSSTAGTPVPRDN 180
Qy 210 DGI PDSLEVEGYTVVKNKRTFLSPWISNIHEKGLTKYKSSPEKWSSTASDPYDFEYV 269
Db 181 DGI PDSLEVEGYTVVKNKRTFLSPWISNIHEKGLTKYKSSPEKWSSTASDPYDFEYV 240
Qy 270 GRIDKNVSPEARHPLVAAYPIVHVDMENIILSKNEDQSTQNTDSETRTISKNTSTSRHT 329
Db 241 GRIDKNVSPEARHPLVAAYPIVHVDMENIILSKNEDQSTQNTDSETRTISKNTSTSRHT 300
Qy 330 SEVHGNAEVHASFDDIGGSVAGFSNSNSTVAIDHSLSLAGERTWAEWTGLNTADTARL 389
Db 301 SEVHGNAEVHASFDDIGGSVAGFSNSNSTVAIDHSLSLAGERTWAEWTGLNTADTARL 360
Qy 390 NANIRYVNTGAPIYVNLPTTSLVGNQTLATIKAKENQLSOLAPNNYYPKSLAPIA 449
Db 361 NANIRYVNTGAPIYVNLPTTSLVGNQTLATIKAKENQLSOLAPNNYYPKSLAPIA 420
Qy 450 LNAQDDFSSPTITMNYNQFLEKTKQLRLDQVYGNIAIYNFENGVRVYDTGNSWSEV 509
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Db 421 LNAQDDFSSPTITMNYNQFLEKTKQLRLDQVYGNIAIYNFENGVRVYDTGNSWSEV 480
Qy 510 LPOIQETTARIIFNGKDLNVERRIAANVPSDPLETTKPDMTLKEALKIAGFNEPNGNL 569
Db 481 LPOIQETTARIIFNGKDLNVERRIAANVPSDPLETTKPDMTLKEALKIAGFNEPNGNL 540
Qy 570 QYQGKOITEFDNFDDQTSQNIKNQLAELNATNIYTVLDDKIKLNAKQNTLIRDKRPHYDR 629
Db 541 QYQGKOITEFDNFDDQTSQNIKNQLAELNATNIYTVLDDKIKLNAKQNTLIRDKRPHYDR 600
Qy 630 NNTIAGADESVVKEAHRREVINSSTEGLLIMIDKDIRKILSGYIVETEDTEGLKEVINDRY 689
Db 601 NNTIAGADESVVKEAHRREVINSSTEGLLIMIDKDIRKILSGYIVETEDTEGLKEVINDRY 660
Qy 690 DMLNSSLRQDQKTFIDFKYNDKPLXYISNPYKVVYAVTKENTIINPSENGDTSTNG 749
Db 661 DMLNSSLRQDQKTFIDFKYNDKPLXYISNPYKVVYAVTKENTIINPSENGDTSTNG 720
Qy 750 IKKILIFSKKGYEIG 764
Db 721 IKKILIFSKKGYEIG 735

RESULT 12
US-09-848-909-1
; Sequence 1, Application US/09848909
; Publication No. US20020039588A1
; GENERAL INFORMATION:
; APPLICANT: Collier, R. John
; APPLICANT: Sellman, Brett R.
; TITLE OF INVENTION: Compounds and Methods for the Treatment
; FILE REFERENCE: 00742/060002
; CURRENT APPLICATION NUMBER: US/09/848,909
; CURRENT FILING DATE: 2001-05-04
; PRIOR APPLICATION NUMBER: US 60/201,800
; PRIOR FILING DATE: 2000-04-04
; NUMBER OF SEQ ID NOS: 35
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 736
; TYPE: PRT
; ORGANISM: Bacillus anthracis
US-09-848-909-1

Query Match 96.6%; Score 3774; DB 3; Length 736;
Best Local Similarity 100.0%; Pred. No. 4.1e-220;
Matches 735; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 30 EVKQENRLNSESQGLGYFSDLNFOAPMVVTSSTTGDLSIPSELENIPSENOYF 89
Db 1 EVKQENRLNSESQGLGYFSDLNFOAPMVVTSSTTGDLSIPSELENIPSENOYF 60
Qy 90 QSAIWSGFIKVKSDDEYTFATSDNHVTMWVDDQEVINKASNSNKIRLEKGRLLYQIKIY 149
Db 61 QSAIWSGFIKVKSDDEYTFATSDNHVTMWVDDQEVINKASNSNKIRLEKGRLLYQIKIY 120
Qy 150 QRENPTKGLDFKLYWTDSONKKEVISSDNLQLPELKQKSSNRKRSSTAGTPVPRDN 209
Db 121 QRENPTKGLDFKLYWTDSONKKEVISSDNLQLPELKQKSSNRKRSSTAGTPVPRDN 180
Qy 210 DGI PDSLEVEGYTVVKNKRTFLSPWISNIHEKGLTKYKSSPEKWSSTASDPYDFEYV 269
Db 181 DGI PDSLEVEGYTVVKNKRTFLSPWISNIHEKGLTKYKSSPEKWSSTASDPYDFEYV 240
Qy 270 GRIDKNVSPEARHPLVAAYPIVHVDMENIILSKNEDQSTQNTDSETRTISKNTSTSRHT 329
Db 241 GRIDKNVSPEARHPLVAAYPIVHVDMENIILSKNEDQSTQNTDSETRTISKNTSTSRHT 300
Qy 330 SEVHGNAEVHASFDDIGGSVAGFSNSNSTVAIDHSLSLAGERTWAEWTGLNTADTARL 389
Db 301 SEVHGNAEVHASFDDIGGSVAGFSNSNSTVAIDHSLSLAGERTWAEWTGLNTADTARL 360
```

QY 390 NANIRYVNTGTAPIYVNLPTTSLVLGKQTLATIRAKENQLSQILAPNNYPSKNLAPIA 449
DB 361 NANIRYVNTGTAPIYVNLPTTSLVLGKQTLATIRAKENQLSQILAPNNYPSKNLAPIA 420
QY 450 LNAQDDFSSTPTIMNYNQFLELEKTKQLRLDQVYGNATYFNGRVRVDTGNNSEV 509
DB 421 LNAQDDFSSTPTIMNYNQFLELEKTKQLRLDQVYGNATYFNGRVRVDTGNNSEV 480
QY 510 LPOIQETTARIIFNGKOLNLVERRIAAVNPSPLETTKPDWTLKEALKIATGFNPNL 569
DB 481 LPOIQETTARIIFNGKOLNLVERRIAAVNPSPLETTKPDWTLKEALKIATGFNPNL 540
QY 570 QYQKDIITEFDNFDDQTSQNIKNQLAELNATNIYTVLDKIKNAKONLILRDKRFHYDR 629
DB 541 QYQKDIITEFDNFDDQTSQNIKNQLAELNATNIYTVLDKIKNAKONLILRDKRFHYDR 600
QY 630 NNIAVGADESUVKEAHREVINSSTGLLNIDKOIRKILSGYIVEIETDEGLKEVINDRY 689
DB 601 NNIAVGADESUVKEAHREVINSSTGLLNIDKOIRKILSGYIVEIETDEGLKEVINDRY 660
QY 750 IKKILIFSKGYEIG 764
DB 721 IKKILIFSKGYEIG 735

RESULT 13

US-09-848-909-2
; Sequence 2, Application US/09848909
; Publication NO. US20020039588A1
; GENERAL INFORMATION:
; APPLICANT: Collier, R. John
; APPLICANT: Sellman, Brett R.
; TITLE OF INVENTION: Compounds and Methods for the Treatment
; TITLE OF INVENTION: and Prevention of Bacterial Infection
; FILE REFERENCE: 00742/060002
; CURRENT APPLICATION NUMBER: US/09/848,909
; PRIOR FILING DATE: 2001-05-04
; PRIOR FILING DATE: 2000-04-04
; NUMBER OF SEQ ID NOS: 35
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 736
; TYPE: PRF
; ORGANISM: Bacillus anthracis
US-09-848-909-2

Query Match 96.6%; Score 3774; DB 3; Length 736;
Best Local Similarity 100.0%; Pred. No. 4.1e-220;
Matches 735; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 30 EVKQENRLNESESSQGLGYFSDLNFOAPMVVTSSTTGDLSIPSELENIPSENQYF 89
DB 1 EVKQENRLNESESSQGLGYFSDLNFOAPMVVTSSTTGDLSIPSELENIPSENQYF 60
QY 90 QSAIWSGFIKVKSDYEYTFATSDNHNVTWVDDQEVINKASNKIRLEKGRLYQIKIY 149
DB 61 QSAIWSGFIKVKSDYEYTFATSDNHNVTWVDDQEVINKASNKIRLEKGRLYQIKIY 120
QY 150 QRENPTKGLDFKLYWTDSONKKEVISSNLQPLKQKSSNRKKRSTSGAGTVPDRDN 209
DB 121 QRENPTKGLDFKLYWTDSONKKEVISSNLQPLKQKSSNRKKRSTSGAGTVPDRDN 180
QY 210 DGIPDSLEVEGYTVDNKRTFLSPMISNIHEKGLTKYKSSPEKWTASDDYSDFEKVT 269
DB 181 DGIPDSLEVEGYTVDNKRTFLSPMISNIHEKGLTKYKSSPEKWTASDDYSDFEKVT 240
QY 270 GRIDKNVSPARHPLVAAYPIVHVDMENILSKNEDQSTQNTDSETRTISKNTSTSRHT 329

DB 241 GRIDKNVSPARHPLVAAYPIVHVDMENILSKNEDQSTQNTDSETRTISKNTSTSRHT 300
QY 330 SEVHGNAEVAHAFDIOGVSAGFSNSNSTVAIDHSLSLAGERTWAETMGLNTADTARL 389
DB 301 SEVHGNAEVAHAFDIOGVSAGFSNSNSTVAIDHSLSLAGERTWAETMGLNTADTARL 360
QY 390 NANIRYVNTGTAPIYVNLPTTSLVLGKQTLATIRAKENQLSQILAPNNYPSKNLAPIA 449
DB 361 NANIRYVNTGTAPIYVNLPTTSLVLGKQTLATIRAKENQLSQILAPNNYPSKNLAPIA 420
QY 450 LNAQDDFSSTPTIMNYNQFLELEKTKQLRLDQVYGNATYFNGRVRVDTGNNSEV 509
DB 421 LNAQDDFSSTPTIMNYNQFLELEKTKQLRLDQVYGNATYFNGRVRVDTGNNSEV 480
QY 510 LPOIQETTARIIFNGKOLNLVERRIAAVNPSPLETTKPDWTLKEALKIATGFNPNL 569
DB 481 LPOIQETTARIIFNGKOLNLVERRIAAVNPSPLETTKPDWTLKEALKIATGFNPNL 540
QY 570 QYQKDIITEFDNFDDQTSQNIKNQLAELNATNIYTVLDKIKNAKONLILRDKRFHYDR 629
DB 541 QYQKDIITEFDNFDDQTSQNIKNQLAELNATNIYTVLDKIKNAKONLILRDKRFHYDR 600
QY 630 NNIAVGADESUVKEAHREVINSSTGLLNIDKOIRKILSGYIVEIETDEGLKEVINDRY 689
DB 601 NNIAVGADESUVKEAHREVINSSTGLLNIDKOIRKILSGYIVEIETDEGLKEVINDRY 660
QY 690 DMLNSSLRQDGKTFIDFKKYNDKPLYSNPYKVVVAVTKENTIINPSENGDTSTNG 749
DB 661 DMLNSSLRQDGKTFIDFKKYNDKPLYSNPYKVVVAVTKENTIINPSENGDTSTNG 720
QY 750 IKKILIFSKGYEIG 764
DB 721 IKKILIFSKGYEIG 735

RESULT 14

US-09-848-909-3
; Sequence 3, Application US/09848909
; Publication NO. US20020039588A1
; GENERAL INFORMATION:
; APPLICANT: Collier, R. John
; APPLICANT: Sellman, Brett R.
; TITLE OF INVENTION: Compounds and Methods for the Treatment
; TITLE OF INVENTION: and Prevention of Bacterial Infection
; FILE REFERENCE: 00742/060002
; CURRENT APPLICATION NUMBER: US/09/848,909
; PRIOR FILING DATE: 2001-05-04
; PRIOR FILING DATE: 2000-04-04
; NUMBER OF SEQ ID NOS: 35
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 736
; TYPE: PRF
; ORGANISM: Bacillus anthracis
US-09-848-909-3

Query Match 96.6%; Score 3774; DB 3; Length 736;
Best Local Similarity 100.0%; Pred. No. 4.1e-220;
Matches 735; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 30 EVKQENRLNESESSQGLGYFSDLNFOAPMVVTSSTTGDLSIPSELENIPSENQYF 89
DB 1 EVKQENRLNESESSQGLGYFSDLNFOAPMVVTSSTTGDLSIPSELENIPSENQYF 60
QY 90 QSAIWSGFIKVKSDYEYTFATSDNHNVTWVDDQEVINKASNKIRLEKGRLYQIKIY 149
DB 61 QSAIWSGFIKVKSDYEYTFATSDNHNVTWVDDQEVINKASNKIRLEKGRLYQIKIY 120
QY 150 QRENPTKGLDFKLYWTDSONKKEVISSNLQPLKQKSSNRKKRSTSGAGTVPDRDN 209
DB 121 QRENPTKGLDFKLYWTDSONKKEVISSNLQPLKQKSSNRKKRSTSGAGTVPDRDN 180

QY 210 DGIPDSLEVEGYTVDVKNKRTFLSPWISNIHEKGLTKYKSSPEKWSASTASDPYSDFEYVT 269
DB 181 DGI PDSLEVEGYTVDVKNKRTFLSPWISNIHEKGLTKYKSSPEKWSASTASDPYSDFEYVT 240
QY 270 GRIDKNVSPARHPLVAAYPIVHVDMENIILSKNEDQSTQNTDSETRTISKNTSSTRHT 329
DB 241 GRIDKNVSPARHPLVAAYPIVHVDMENIILSKNEDQSTQNTDSETRTISKNTSSTRHT 300
QY 330 SEVHGNAEVAHFDDIGGSVAGFSNSNSTVAIDHSLSLAGERTWAETMGLNTADTARL 389
DB 301 SEVHGNAEVAHFDDIGGSVAGFSNSNSTVAIDHSLSLAGERTWAETMGLNTADTARL 360
QY 390 NANIRYVNTGTAPIYVNLPTTSLVLGKNQTLATIKAKENQLSQIILAPNNYPSKNLAPIA 449
DB 361 NANIRYVNTGTAPIYVNLPTTSLVLGKNQTLATIKAKENQLSQIILAPNNYPSKNLAPIA 420
QY 450 LNAQDDFSSPTITMNYNQFLEKTKQLRLDQVYGNIAATYVNFENGRVVRVDTGSNWSEV 509
DB 421 LNAQDDFSSPTITMNYNQFLEKTKQLRLDQVYGNIAATYVNFENGRVVRVDTGSNWSEV 480
QY 510 LPOIQTETARIIFNGKDLNLVERRIAAVNPSPDLETTKPDMTLKEALKIAFGFNEPNGNL 569
DB 481 LPOIQTETARIIFNGKDLNLVERRIAAVNPSPDLETTKPDMTLKEALKIAFGFNEPNGNL 540
QY 570 QYQKDIITEFDNFQDQTSQNIKNQLAELNATNIYTVLDKIKLNAMNILLIRDKRPHYDR 629
DB 541 QYQKDIITEFDNFQDQTSQNIKNQLAELNATNIYTVLDKIKLNAMNILLIRDKRPHYDR 600
QY 630 NNIAGADESVVKEAHREVINSSTEGLLNIDKDIRKILSGYIVIEIDTEGLKEVINDRY 689
DB 601 NNIAGADESVVKEAHREVINSSTEGLLNIDKDIRKILSGYIVIEIDTEGLKEVINDRY 660
QY 690 DMLNISSLRODQKTFIDFKYNDKPLIYISNPYKVNVAVTKENTIINPSENGTSTNG 749
DB 661 DMLNISSLRODQKTFIDFKYNDKPLIYISNPYKVNVAVTKENTIINPSENGTSTNG 720
QY 750 IKKILIFSKKGYEIG 764
DB 721 IKKILIFSKKGYEIG 735

RESULT 15
US-09-848-909-4
; Sequence 4, Application US/09848909
; Publication No. US20020039588A1
; GENERAL INFORMATION:
; APPLICANT: Collier, R. John
; APPLICANT: Sellman, Brett R.
; TITLE OF INVENTION: Compounds and Methods for the Treatment
; TITLE OF INVENTION: and Prevention of Bacterial Infection
; FILE REFERENCE: 00742/060002
; CURRENT APPLICATION NUMBER: US/09/848,909
; CURRENT FILING DATE: 2001-05-04
; PRIOR APPLICATION NUMBER: US 60/201,800
; PRIOR FILING DATE: 2000-04-04
; NUMBER OF SEQ ID NOS: 35
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 4
; LENGTH: 736
; TYPE: PRT
; ORGANISM: Bacillus anthracis
US-09-848-909-4

Query Match 96.6%; Score 3774; DB 3; Length 736;
Best Local Similarity 100.0%; Pred. No. 4.1e-220;
Matches 735; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 30 EVKQENRLNSESSESSQGLGYFSDLNFPQAPMVVTSSTTGDLSIPSSSELENIPSENOYF 89
DB 1 EVKQENRLNSESSESSQGLGYFSDLNFPQAPMVVTSSTTGDLSIPSSSELENIPSENOYF 60
QY 90 QSAIWSGFIKVKSDSEYTFATSDHNHVTMWDDQEVINKASNSNKIRLEKGRLYQIKIY 149

DB 61 QSAIWSGFIKVKSDSEYTFATSDHNHVTMWDDQEVINKASNSNKIRLEKGRLYQIKIY 120
QY 150 QRENPTKGLDFKLYWTDSONKKEVSSDNQLQPELKOKSSNSRKRSTASAGTPVDDRDN 209
DB 121 QRENPTKGLDFKLYWTDSONKKEVSSDNQLQPELKOKSSNSRKRSTASAGTPVDDRDN 180
QY 210 DGI PDSLEVEGYTVDVKNKRTFLSPWISNIHEKGLTKYKSSPEKWSASTASDPYSDFEYVT 269
DB 181 DGI PDSLEVEGYTVDVKNKRTFLSPWISNIHEKGLTKYKSSPEKWSASTASDPYSDFEYVT 240
QY 270 GRIDKNVSPARHPLVAAYPIVHVDMENIILSKNEDQSTQNTDSETRTISKNTSSTRHT 329
DB 241 GRIDKNVSPARHPLVAAYPIVHVDMENIILSKNEDQSTQNTDSETRTISKNTSSTRHT 300
QY 330 SEVHGNAEVAHFDDIGGSVAGFSNSNSTVAIDHSLSLAGERTWAETMGLNTADTARL 389
DB 301 SEVHGNAEVAHFDDIGGSVAGFSNSNSTVAIDHSLSLAGERTWAETMGLNTADTARL 360
QY 390 NANIRYVNTGTAPIYVNLPTTSLVLGKNQTLATIKAKENQLSQIILAPNNYPSKNLAPIA 449
DB 361 NANIRYVNTGTAPIYVNLPTTSLVLGKNQTLATIKAKENQLSQIILAPNNYPSKNLAPIA 420
QY 450 LNAQDDFSSPTITMNYNQFLEKTKQLRLDQVYGNIAATYVNFENGRVVRVDTGSNWSEV 509
DB 421 LNAQDDFSSPTITMNYNQFLEKTKQLRLDQVYGNIAATYVNFENGRVVRVDTGSNWSEV 480
QY 510 LPOIQTETARIIFNGKDLNLVERRIAAVNPSPDLETTKPDMTLKEALKIAFGFNEPNGNL 569
DB 481 LPOIQTETARIIFNGKDLNLVERRIAAVNPSPDLETTKPDMTLKEALKIAFGFNEPNGNL 540
QY 570 QYQKDIITEFDNFQDQTSQNIKNQLAELNATNIYTVLDKIKLNAMNILLIRDKRPHYDR 629
DB 541 QYQKDIITEFDNFQDQTSQNIKNQLAELNATNIYTVLDKIKLNAMNILLIRDKRPHYDR 600
QY 630 NNIAGADESVVKEAHREVINSSTEGLLNIDKDIRKILSGYIVIEIDTEGLKEVINDRY 689
DB 601 NNIAGADESVVKEAHREVINSSTEGLLNIDKDIRKILSGYIVIEIDTEGLKEVINDRY 660
QY 690 DMLNISSLRODQKTFIDFKYNDKPLIYISNPYKVNVAVTKENTIINPSENGTSTNG 749
DB 661 DMLNISSLRODQKTFIDFKYNDKPLIYISNPYKVNVAVTKENTIINPSENGTSTNG 720
QY 750 IKKILIFSKKGYEIG 764
DB 721 IKKILIFSKKGYEIG 735

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